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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,466	06/07/2000	Samson Boodaghians	1999-0700	9628

7590   09/23/2003

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Claim Objections

Claims 9 and 21 are objected to because of the following informalities:

1.   Regarding claim 9 - Line 2, "is inserted is located" is not correct grammar.

2.   Regarding claim 21 - Claim 21 ends with two periods.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

I.   Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Theimer

"Requirements for OAM Functionality in MPLS" hereinafter Theimer as applied to claims 1-45

above, and further in view of Harrison "Discussion paper - MPLS OAM functions and PDU

structures" hereinafter Harrison which references Rosen "MPLS Label Stack Encoding"

hereinafter Rosen.

1.   Regarding claims 1, 11, 12, 16, 22, 23, 29, 30, 35 and 41 - Theimer discloses the need for

OAM packets in MPLS wherein OAM packets are in-band network management packets

(INMP), refer to sections 1 and 2, and Theimer discloses the need to distinguish INMP packets

from user packets and using an INMP indicator, refer to section 4.

Theimer does not expressly discloses inserting a predetermined code in a field in the

header as the INMP indicator.

Harrison utilizing the Rosen reference discloses a predetermined code in a field in the

header to indicate an INMP, refer to Harrison pages 2 to 5 and Rosen section 2 pages 3 to 7.

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to combine Theimer, Harrison and Rosen to provide INMP in MPLS networks and

include a predetermined code in a field in the header to distinguish the INMP packets from the

user packets.

The suggestion/motivation being that Theimer discloses the need for INMP packets and

the need to indicate the difference between INMP and user packets. The benefit being that less

processing is required at the each router to distinguish between the INMP packets and the user

packets.

2.   Regarding claims 8, 9, 10, 15, 17, 19, 21, 24, 27, 28, 33, 34, 39, 40, 44, and 45 - Theimer

and the references cited by Theimer disclose an MPLS packet, an MPLS switching network, and

that the predetermined code (indicator) is inserted and located in the shim header which is the

MPLS label, refer to pages 1 to 5 including the references.

3.   Regarding claims 2, 3, 4, 7, 13, 25, 36, and 37 - Theimer discloses providing an indicator

to distinguish INMP and user packets.

        Theimer does not expressly disclose the predetermined code is an experimental field

which is a three-bit code or a one-bit code.

        Harrison discloses that the experimental field within the INMP (MPLS) packet be used to

distinguish the INMP packets from user packets, refer to pages 2 to 5.

        At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to utilize an experimental code as the predetermined code which can be 3-bits or one-bit.

The suggestion/motivation being that the experimental field within the INMP label is an

indicator which Theimer discloses using to distinguish the INMP packets for the user packets.

The experimental field is a three-bit field wherein the code can utilize three bits or one bit to

define the indicator. The benefit being that less processing is required at the each router to

distinguish between the INMP packets and the user packets.

4.   Regarding claim 5 - Theimer discloses providing an indicator to distinguish INMP and

user packets.

Theimer does not expressly disclose the predetermined code indicates class of service for

the packet.

Harrison discloses that the predetermined code indicates a class of service for the packet,

refer to pages 2 to 5.

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to utilize the predetermined the code to indicate a class of service for the packet. The

suggestion/motivation being that Theimer discloses the use of the indicator and providing

additional information such as class of service as taught by Harrison will yield additional gain in

processing since the predetermined code will indicate the difference between INMP packets and

user packets as well as class of service. The benefit being that less processing is required at the

each router to distinguish between the INMP packets and the user packets.

5.   Regarding claims 6, 14, 26, and 38 - Theimer discloses providing an indicator to

distinguish INMP and user packets.

Theimer does not expressly discloses the predetermined code is the TTL field.

Harrison and the Rosen reference refer to the TTL field as part of the MPLS label, refer to

Rosen pages 3 and 6.

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to utilize the TTL field as the predetermined code. The suggestion/motivation would have

been that Theimer discloses an indicator for distinguishing between the INMP packets and the

user packets and utilizing the TTL field would be an indicator for the code since the TTL field

utilizes 8 bits and setting aside one-bit for the indicator would still leave 7-bits for the TTL field

which leaves more than 100 hops between source and destination and there is no showing of

criticality for using the TTL field. The benefit being that less processing is required at the each

router to distinguish between the INMP packets and the user packets.

6.   Regarding claims 18, 20, 31, 32, 42, and 43 - Theimer and the references cited discloses

an MPLS network wherein MPLS routers utilize labels (shims) attached to the TCP/IP packets to

route packets from source to destination, refer to pages 2 to 5. Each label switching router (LSR)

utilizes the label to associate a given flow of packets to a given route which is set-up apriori.

Each LSR inspects the label of the incoming packet to determine the next-hop to route the packet

which saves time over the normal TCP/IP level 3 routing based on address decoding.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

1.   Madour et al. (US 6,611,532 B1) discloses methods and apparatus for integrating SS7

networks with MPLS networks.

2.   Kodialam et al. (US 6,538,991 B1) discloses a constraint-based routing between ingress-

egress points in a packet network.

        Any inquiry concerning this communication or earlier communications from the examiner

should be directed to John Pezzlo whose telephone number is (703) 306-5420. The examiner can

normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou, can be reached on (703) 305-4744. The fax phone number for the

organization where this application or proceeding is assigned is (703) 308-6743.

        Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 872-9314.

        Any response to this action should be mailed to:

                Commissioner of Patents and Trademarks

                Washington, D.C.

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        Hand delivered responses should be brought to:

Receptionist (Sixth floor)

Crystal Park 2

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John Pezzlo

10 September 2003